

Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay. The examiner has indicated that the case contains allowable subject matter.

The translation serving specification has been amended to eliminate some minor obvious errors, to eliminate references to the claims, and to insert US-style headings and a PCT cross-reference paragraph. No new matter whatsoever has been added.

The claims have been amended to be in better US form. The reference numerals have been dropped and the language has been corrected. In addition they have been redrawn to a "combination" to better comply with US requirements.

Claim 7, which depended via claim 6 on independent claim 4, has been found to contain allowable subject matter. Accordingly this amendment places the subject matter of claim 4 and 6 into claim 7 to make claim 7 independent and allowable, along with claims 8 and 9 dependent from claim 7.

Claim 11, which originally depended directly from independent claim 4, has been found to contain allowable subject matter. Accordingly the subject matter of claim 4 has been inserted into claim 11 to make claim 11 independent and allowable.

Claim 10, which depended like claim 7 via claim 6 on independent claim 4, has also been found to contain allowable subject matter. Accordingly the subject matter of claims 6 and 10 has been inserted into claim 4 to make claim 4 allowable. Claims 5, 6, and 10 have been canceled.

There are now four independent claims in the case (including claim 1 discussed below) so that a PTO-2038 for the fee for one extra independent claim is enclosed herewith.

Claim 1 has been amended to define the invention with greater particularity over the art. It now recites that the spacing and dimensions of the slots in the comb seal element are such that this element can deform to fit irregularities on the seal face, as clearly discussed at several points in the original disclosure, such as page 3, lines 22ff; page 7, lines 26ff; and page 8, lines 4ff in the Substitute Specification.

As stated in the Background section of this application the goal of this invention is to provide a coke-oven door seal that can actually conform to irregularities at the door seal edge. Since the joint in question is subjected to extreme thermal abuse, going from near red-hot to ambient temperature on a regular basis, and physical abuse, being exposed to hot corrosive gases and both hot and hard abrasive materials, it is necessary to make it of thick metal, so the deforming it is a problem.

The instant invention solves this problem by forming the seal as a comb. This way the portion that is directly exposed at

the door edge can be a continuous bar formed by the back or spine of the comb, but the portion extending outward and serving for securing it to the door edge is formed as the teeth of the comb, so that the combined assembly has much greater capacity to deform transversely and accommodate heat-warped parts. As shown in all figures the slot depth 5 is equal to about half the overall width of the seal strip 1, so that the strip has about half the stiffness of a full-depth bar seal.

US 4,028,193 of Nagayoshi represents the classic bar seal. There is nothing here to suggest the "comb-shape" that is specifically claimed. The slots 15 as shown in FIG. 10 are spaced apart at about 1 meter, so that they do not impart anything like a "comb-shape" to the structure shown in FIG. 11. A rejection on Nagayoshi is explicitly excluded by the new language added to claim 1, making a §102 rejection impossible.

US 5,254,222 of Mazzini is largely cumulative to Nagayoshi (and was cited with Nagayoshi '193 in the corresponding EP application and were filed as admitted prior art), showing an annular seal 24 with notches 32 located at points of particular stress. These notches 32 are in fact intended as to optimize seal-gas pressure. Once again, FIG. 2 presents nothing that could be described as "comb-shaped" and that is intended to deform so that it also does not anticipate this invention as defined in amended claim 1. A §102 rejection on Mazzini is also out of the question.

These two references are cumulative so that their teachings merely direct one away from the instant invention. Neither has the claimed "comb-shape" so that a §103 rejection on them is similarly out of the question.


In US 3,562,957 of Landis a seal is shown comprising a U-shaped center portion having outer edges each formed with a U-section outwardly open lip. Nothing like this structure is shown or claimed, so that this reference is irrelevant to the instant invention.

For the reasons advanced above, all the claims in the case are clearly in condition for allowance and passage to issue. Notice to that effect is earnestly solicited.

If only minor problems that could be corrected by means of a telephone conference stand in the way of allowance of this

case, the examiner is invited to call the undersigned to make the necessary corrections.

Respectfully submitted,  
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Enclosure:           Corrected version  
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